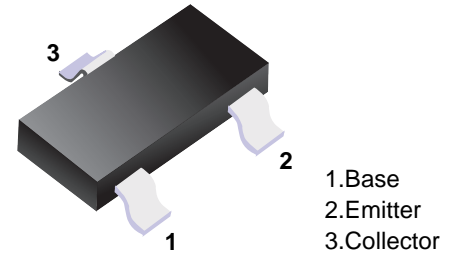


# S8050

## ■ NPN Transistors

### ■ Features

- Collector Current:  $I_C=0.5A$



■ Simplified outline(SOT-23)

### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CB0}$	40	V
Collector-Emitter Voltage	$V_{CE0}$	25	V
Emitter-Base Voltage	$V_{EB0}$	5	V
Collector Current -Continuous	$I_C$	0.5	A
Collector Dissipation	$P_C$	0.3	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 to 150	$^\circ C$

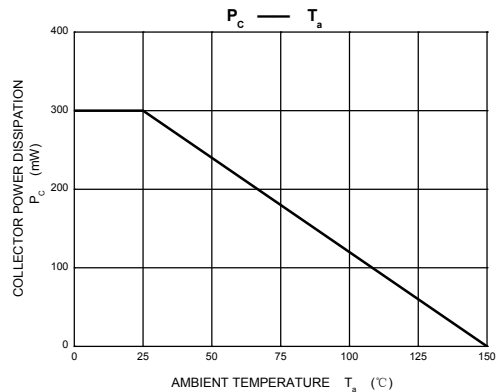
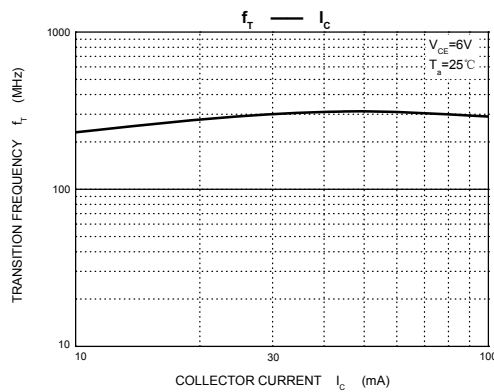
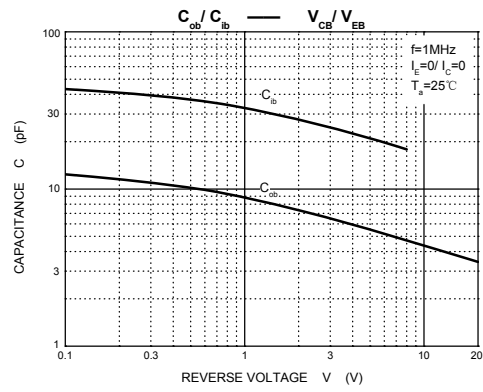
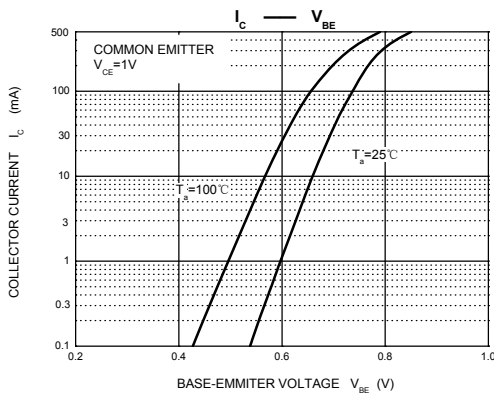
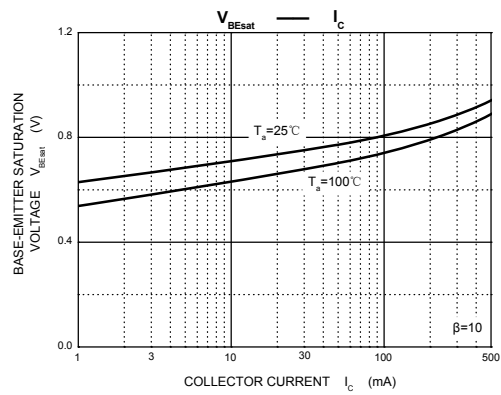
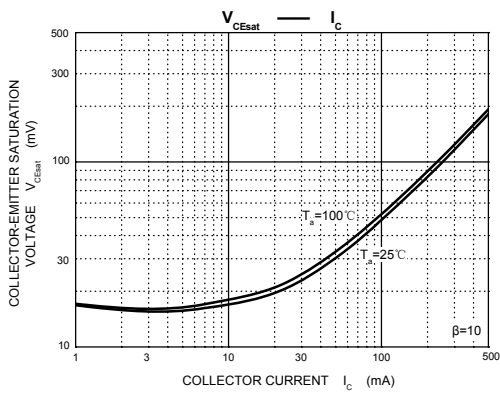
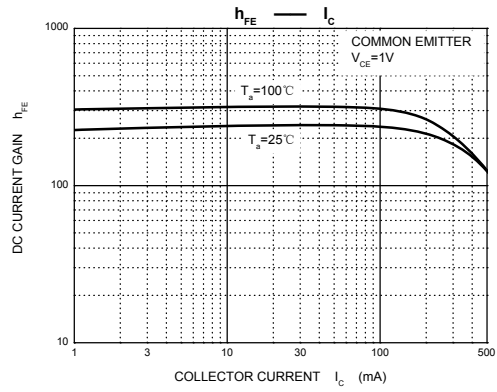
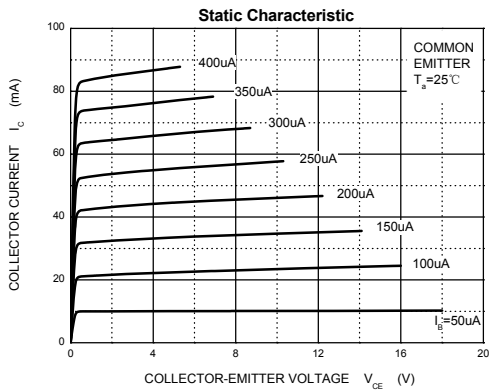
### ■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{CB0}$	$I_C = 100 \mu A, I_E = 0$	40			V
Collector-emitter breakdown voltage	$V_{CE0}$	$I_C = 1mA, I_B = 0$	25			V
Emitter-base Breakdown voltage	$V_{EB0}$	$I_E = 100 \mu A, I_C = 0$	5			V
Collector-base cut-off current	$I_{CB0}$	$V_{CB} = 40 V, I_E = 0$			0.1	$\mu A$
Collector-emitter cut-off current	$I_{CE0}$	$V_{CE} = 20 V, I_B = 0$			1	$\mu A$
Emitter-base cut-off current	$I_{EB0}$	$V_{EB} = 5 V, I_C = 0$			0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE} = 1 V, I_C = 50 mA$	120		400	
		$V_{CE} = 1 V, I_C = 500 mA$	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500 mA, I_B = 50 mA$			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 500 mA, I_B = 50 mA$			1.2	V
Transition frequency	$f_T$	$V_{CE} = 6 V, I_C = 20 mA, f = 30 MHz$	150			MHz

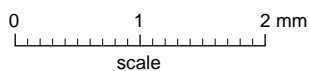
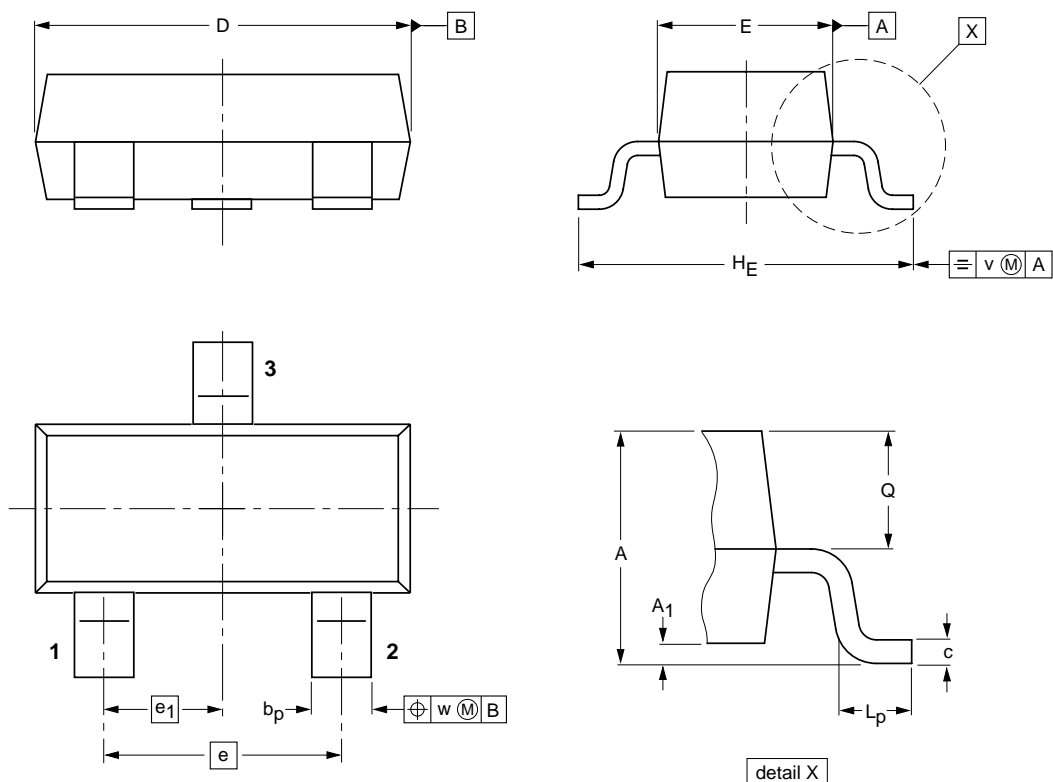
### ■ Classification of $h_{FE}(1)$

Type	S8050	S8050-L	S8050-H	S8050-J
Range	200-350	120-200	144-202	300-400
Marking	J3Y			

■ Typical Characteristics



■ SOT-23



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1